IN THE CLAIMS:

Please amend the claims as follows:

1-19. (Cancelled).

20. (Currently Amended) A method of forming an island photodiode comprising:

forming a core having a cube shape in a substrate;

forming trenches in said substrate adjacent said core; and

forming light sensing sidewalls along said trenches, wherein said sidewalls are perpendicular to a surface of said photodiode that receives incident light; ~~and~~

~~forming logic circuitry above said core~~.

21. (Cancelled).

22. (Original) The method in claim 20, wherein said forming of said light sensing sidewalls comprises doping sidewalls of said trench to form a junction region between said sidewalls and said core that causes electron transfer when said sensing sidewalls are struck with light.

23. (Currently Amended) The method in claim 20 further comprising forming logic circuitry above said core, wherein said logic circuitry blocks light from reaching the top of said core.

24. (Original) The method in claim 20, wherein said forming of said trenches forms four vertical sidewalls around said core.

25. (Original) The method in claim 20, further comprising doping said core with impurities to form an n+ core and doping said sidewalls with impurities to form p+ sidewalls.

26. (Currently Amended) A method of forming an array of island photodiodes comprising:

forming cores having a cube shape in a substrate;

forming trenches in said substrate adjacent said cores; and

forming light sensing sidewalls along said trenches, wherein said sidewalls are perpendicular to surfaces of said photodiodes that receive incident light; ~~and~~

~~forming logic circuitry above each of said cores~~.

27. (Cancelled).

28. (Original) The method in claim 26, wherein said forming of said light sensing sidewalls comprises doping sidewalls of said trench to form a junction region between said sidewalls and said cores that causes electron transfer when said sensing sidewalls are struck with light.

29. (Currently Amended) The method in claim 26, further comprising forming logic circuitry above said core, wherein said logic circuitry blocks light from reaching the top of said cores.

30. (Original) The method in claim 26, wherein said forming of said trenches forms four vertical sidewalls around each of said cores.

31. (Original) The method in claim 26, further comprising doping said cores with impurities to form an n+ core and doping said sidewalls with impurities to form p+ sidewalls.

32-33 (Cancelled).

34. (Previously Presented) A method of forming an island photodiode comprising:

forming a core having a cube shape in a substrate;

forming trenches in said substrate adjacent said core;

forming light sensing sidewalls along said trenches, wherein said sidewalls are perpendicular to a surface of said photodiode that receives incident light; and

forming logic circuitry above said core.

35. (Previously Presented) The method in claim 34, wherein said forming of said light sensing sidewalls comprises doping sidewalls of said trench to form a junction region between said sidewalls and said core that causes electron transfer when said sensing sidewalls are struck with light.

36. (Previously Presented) The method in claim 34, wherein said logic circuitry blocks light from reaching the top of said core.

37. (Previously Presented) The method in claim 34, wherein said forming of said trenches forms four vertical sidewalls around said core.

38. (Previously Presented) The method in claim 34, further comprising doping said core with impurities to form an n+ core and doping said sidewalls with impurities to form p+ sidewalls.